USING TECHNOLOGY TO STUDY CELLULAR AND MOLECULAR BIOLOGY		
New Mexico Science Content Standards– Grades 9 - 12		
Lesson	**Strand and Benchmark**	**Performance Standard**
3	**I – I – I – 1**	Describe the essential components of an investigation, including appropriate methodologies, proper equipment, and safety precautions.
3	**I – I – I – 2**	Design and conduct scientific investigations that include: testable hypotheses, controls and variables, methods to collect, analyze, and interpret data, results that address hypotheses being investigated, predictions based on results, re-evaluation of hypotheses and additional experimentation as necessary, and error analysis.
2, 3	**I – I – I – 3**	Use appropriate technologies to collect, analyze, and communicate scientific data (e.g., computers, calculators, balances, microscopes).
1, 2, 3	**I – I – I – 4**	Convey results of investigations using scientific concepts, methodologies, and expressions, including: scientific language and symbols, diagrams, charts, and other data displays, mathematical expressions and processes (e.g., mean, median, slope, proportionality), clear, logical, and concise communication, and reasoned arguments.
3	**I – I – I – 6**	Understand how scientific theories are used to explain and predict natural phenomena (e.g., plate tectonics, ocean currents, structure of atom).
3	**I – I – II – 1**	Understand how scientific processes produce valid, reliable results, including: consistency of explanations with data and observations, openness to peer review, full disclosure and examination of assumptions, testability of hypotheses, repeatability of experiments, and reproducibility of results.
2, 3	**I – I – II – 2**	Use scientific reasoning and valid logic to recognize: faulty logic, cause and effect, the difference between observation and unsubstantiated inferences and conclusions, and potential bias.
2, 3	**I – I – II – 3**	Understand how new data and observations can result in new scientific knowledge.
2, 3	**I – I – II – 4**	Critically analyze an accepted explanation by reviewing current scientific knowledge.
1, 2	**I – I – III – 1**	Create multiple displays of data to analyze and explain the relationships in scientific investigations.
1	**I – I – III – 2**	Use mathematical models to describe, explain, and predict natural phenomena.
1, 3	**I – I – III – 3**	Use technologies to quantify relationships in scientific hypotheses (e.g., calculators, computer spreadsheets and databases, graphing software, simulations, modeling).

1, 2	**I – I – III – 4**	Identify and apply measurement techniques and consider possible effects of measurement errors.
1	**I – I – III – 5**	Use mathematics to express and establish scientific relationships (e.g., scientific notation, vectors, dimensional analysis).
All lessons	**III – I – I – 2**	Understand how advances in technology enable further advances in science (e.g., microscopes and cellular structure; telescopes and understanding of the universe).
4	**III – I – I – 3**	Evaluate the influences of technology on society (e.g., communications, petroleum, transportation, nuclear energy, computers, medicine, genetic engineering) including both desired and undesired effects, and including some historical examples (e.g., the wheel, the plow, the printing press, the lightning rod).
4	**III – I – I – 10**	Describe major historical changes in scientific perspectives (e.g., atomic theory, germs, cosmology, relativity, plate tectonics, evolution) and the experimental observations that triggered them.
3, 4	**III – I – I – 15**	Identify how science has produced knowledge that is relevant to individual health and material prosperity.
New Mexico Mathematics Content Standards – Grades 9 - 12		
Lesson	**Benchmark**	**Performance Standard**
1	**2.A.6**	Represent and analyze relationships using written and verbal expressions, tables, equations, and graphs, and describe the connections among those representations.
1	**2.A.7**	Know, explain, and use equivalent representations for the same real number including: integers, decimals, percents, ratios, scientific notation, and numbers with integer exponents.
1, 2	**2.C.2**	Use a variety of computational methods (e.g., mental arithmetic, paper and pencil, technological tools).
1	**2.D.2**	Solve routine two- and three-step problems relating to change using concepts such as: exponents, factoring, ratio, proportion, average, and percent.
1, 2	**5.A**	Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.
1, 2	**5.C**	Develop and evaluate inferences and predictions that are based on data.
New Mexico Language Arts Content Standards – Grades 9 & 10		
Grade 9		
Lesson	**Benchmark**	**Performance Standard**
1, 2, 3	**I – B – 2**	Synthesize a variety of types of visual information including pictures and symbols.

2, 3, 4	**I – C – 2**	Support informed opinions by providing relevant and convincing reasons, using various types of evidence, language, and organizational structure, and demonstrating an awareness of possible questions, concerns, or counter-arguments.
3	**I – D – 1**	Explain meaning, describe processes, and answer research questions to inform others by: demonstrating the ability to read and listen to explanatory texts using appropriate preparation, engagement, and reflection, demonstrating comprehension of major ideas, summarizing major steps, and determining accuracy and clarity of the selection.
All lessons	**I – D – 5**	Use discussion with peers as a way of understanding information.
3	**I – D – 6**	Effectively use a variety of interactive technologies to enhance understanding of reading selections (e.g., internet, email, CD-ROM, on-line publications, digital images, and video).
All lessons	**II – A – 1**	Evaluate personal effectiveness in group discussions and make corrections as necessary.
All lessons	**II – A – 2**	Ask questions to broaden and enrich discussions.
3, 4	**II – A – 3**	Express an informed opinion that clearly states a personal view, is logical and coherent, and engages the reader's interest.
Grade 10		
Lesson	**Benchmark**	**Performance Standard**
All lessons	**I – A – 2**	Respond reflectively (through small group discussion, class discussion, journal entry, essay, letter, dialogue) to written and visual texts.
1, 2, 3	**I – A – 3**	Create responses that evaluate problems and offer solutions to a reader or listener by: clearly stating the problem and relevant issues, determining the significance of the problem, focusing on a neutral audience, logically organizing the solutions for a specific audience, offering and evaluating effective solutions, and creating a sense of resolution or closure.
2, 3, 4	**I – B – 3**	Use multiple resources to gather information to evaluate problems, examine cause and effect relationships, and answer research questions to inform an audience.
3	**I – C – 1**	Examine controversial issues by: sharing and evaluating personal response, researching and summarizing data, developing a framework in which to discuss the issue (creating the context), compiling personal responses and researched data to organize the argument, and presenting data in various forms (e.g., graph, essay, speech, video).
2, 3	**I – D – 1**	Pose questions prompted by text and research answers by: accessing cultural information or explanations from print and non-print media sources and prioritizing and organizing information to construct a complete and reasonable explanation.

3	**II – A – 1**	Produce responses to editorials/literature for a neutral audience by providing: a clearly stated position or proposed solution and relevant, reliable support.
New Mexico Health Content Standards – Grades 9 - 12		
Lesson	**Benchmark**	**Performance Standard**
3	**1.N**	Identify ways in which diseases are transmitted (i.e. HIV, bacterial diseases, viral diseases, etc.).
3	**1.DD**	Analyze how research and medical advances can influence health promotion and disease prevention in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety; mental; social and emotional well-being (i.e. new treatment in diabetes control, etc.).
3, 4	**4.H**	Analyze the purposes for technology and its impact on personal, family, peer and community health in the areas related to sexuality; nutrition; alcohol, tobacco, and other drug use; physical activity; personal safety, mental, social and emotional well-being (i.e. internet, medical, conveniences, communication, etc.).